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Information technology — MPEG audio technologies —

Part 2: Spatial Audio Object Coding (SAOC)

AMENDMENT 1: SAOC conformance

Technologies de l'information — Technologies audio MPEG —
Partie 2: Codage d'objet audio spatial (SAOC)
AMENDEMENT 1: Conformité SAOC

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Foreword

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The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

Information technology — MPEG audio technologies —

Part 2:
Spatial Audio Object Coding (SAOC)

AMENDMENT 1: SAOC conformance

Add Clause 10, Conformance testing:

10 Conformance testing

10.1 Introduction

This Clause specifies conformance criteria for both bitstreams and decoders compliant with the SAOC standard as defined in Clauses 1 to 9. This is done to assist implementers and to ensure interoperability.

10.2 Terms and definitions

The terms and definitions as stated in Clause 3 apply. Furthermore, the following terms and definitions will be used throughout this Clause.

Bitstream data encoded according to the SAOC standard

conformance test bitstream bitstream used for testing the conformance of an SAOC

10.3 SAOC conformance testing

Subclause 5.5 defines the SAOC profiles and levels. Some conformance criteria apply to SAOC in general, while others are specific to the specific SAOC profile and its levels. Conformance shall be tested for the level of the profile with which a given bitstream or decoder/transcoder claims to comply.

10.4 Bitstreams

10.4.1 Characteristics

The SAOC audio object type (AOT) can be used in combination with various AOTs.

10.4.2 Test procedure

10.4.2.1 Introduction

An SAOC bitstream shall have the syntax and semantics as specified in Clauses 1 to 9. The present subclause defines the conformance criteria that shall be fulfilled by a compliant bitstream. These criteria are specified for the syntactic elements of the bitstream and for some parameters decoded from the SAOC bitstream payload.

10.4.2.2 Configuration header

10.4.2.2.1 SAOCSpecificConfig()

bsSamplingFrequencyIndex Shall be in the range 0x0..0xc or 0xf. For further restrictions, see 10.4.2.5

bsSamplingFrequency For restrictions, see 10.4.2.5

bsLowDelayMode For restrictions, see 10.4.2.5

bsFreqRes Shall not be encoded with a value of 0. For further restrictions, see 10.4.2.5

bsFrameLength For restrictions, see 10.4.2.5

bsNumObjects For restrictions, see 10.4.2.5

bsRelatedTo[i][j] No restrictions apply

bsTransmitAbsNrg No restrictions apply

bsNumDmxChannels For restrictions, see 10.4.2.5

bsTttDualMode No restrictions apply

bsTttBandsLow Shall not be encoded with a value larger than the value of numBands as given by Table 33

bsPdgFlag No restrictions apply

bsOneIOC No restrictions apply

bsDcuFlag No restrictions apply

bsDcuMandatory No restrictions apply

bsDcuDynamic No restrictions apply

bsDcuMode No restrictions apply

bsDcuParam No restrictions apply

10.4.2.2.2 SAOCExtensionConfigData()

bsSaocExtType No restrictions apply. Note that in case of values indicated as "Reserved" in Table 43, the parsing function SAOCExtensionConfigData(bsSaocExtType) shall return the value 0, such that possibly present data is read as bsFillBits (i.e., skipped) and correct parsing of the bitstream can continue.

bsSaocExtLen No restrictions apply

bsSaocExtLenAdd No restrictions apply

bsSaocExtLenAddAdd No restrictions apply

bsFillBits No restrictions apply

10.4.2.2.3 SAOCExtensionConfigData(0)

The syntactic element SAOCExtensionConfigData(0) shall not be present in case of LD profile and baseline profile level 1. Furthermore, this syntactic element shall not be present if the helper variable numSlots

has a value that is not listed in Table 55 in ISO/IEC 23003-1:2007. Furthermore, if this syntactic element is present, the bitstream shall fulfil the requirements outlined in 6.1.13 in ISO/IEC 23003-1:2007. For further restrictions, see 10.4.2.5.

bsDcuFlag2 No restrictions apply

bsDcuMode2 No restrictions apply

bsDcuParam2 No restrictions apply

10.4.2.2.3.1 ResidualConfig()

bsResidualSamplingFrequencyIndex	Shall fulfil the requirements outlined in 6.1.13 and Table 88 in ISO/IEC 23003-1:2007
bsResidualFramesPerSAOCFrame	Shall fulfil the requirements outlined in 6.1.13 and Table 87 in ISO/IEC 23003-1:2007
bsNumGroupsFGO	For restrictions, see 10.4.2.5
bsResidualPresent[i]	No restrictions apply
bsResidualBands[i]	Shall not be encoded with a value larger than the value of **bsTtnBandsLow**[i]
bsTtnDualMode[i]	No restrictions apply
bsTtnBandsLow[i]	Shall not be encoded with a value larger than the value of numBands as given by Table 33

10.4.2.2.4 SAOCExtensionConfigData(1)

None

10.4.2.2.5 SAOCExtensionConfigData(2)

Shall fulfil the requirements outlined in Table 51.

10.4.2.2.6 SAOCExtensionConfigData(3)

None

10.4.2.2.7 SAOCExtensionConfigData(8)

10.4.2.2.7.1 ObjectMetaData()

bsNumByteMetaData[i] No restrictions apply

bsMetaData[i][j] Shall be encoded in UTF-8 encoding format

10.4.2.2.8 SAOCExtensionConfigData(9)

10.4.2.2.8.1 PresetConfig()

bsNumPresets No restrictions apply

bsNumBytePresetLabel[i] No restrictions apply

bsPresetLabel[i][j] Shall be encoded in UTF-8 encoding format

bsPresetMatrix No restrictions apply

10.4.2.2.8.2 PresetMatrixData()

bsPresetMatrixType Shall not be encoded with a value of 3

bsPresetMatrixElements[i][j] No restrictions apply

10.4.2.2.8.3 PresetMatrixData()

bsPresetUserDataIdentifier[i] Shall be encoded in UTF-8 encoding format

bsPresetUserDataLen No restrictions apply

10.4.2.2.9 SAOCExtensionConfigData(10)

10.4.2.2.9.1 SeparationMetaData()

bsNumSeparationPairs No restrictions apply

bsSeparationMainObjectID[i] No restrictions apply

bsSeparationSubObjectID[i] No restrictions apply

10.4.2.3 Bitstream payload

10.4.2.3.1 SAOCFrame()

bsIndependencyFlag No restrictions apply

10.4.2.3.1.1 SAOCFramingInfo()

bsFramingType No restrictions apply

bsNumParamSets For restrictions, see 10.4.2.5

bsParamSlot[i] Shall be in the range 0...bsFrameLength

10.4.2.3.1.2 EcDataSaoc()

bsXXXdataMode[i][j]	Shall fulfil the requirements outlined in 6.1.13. Shall not be encoded with the value 2 if EAO mode (residual coding) is applied
bsDataPairXXX[i][j]	Shall have the value 0 if setIdx == dataSets-1. No further restrictions apply
bsQuantCoarseXXX[i][j]	No restrictions apply
bsFreqResStrideXXX[i][j]	No restrictions apply

10.4.2.3.1.3 SAOCEcDataPair()

bsPcmCodingXXX[i][j]	No restrictions apply

10.4.2.3.1.4 SAOCDiffHuffData()

bsDiffType	No restrictions apply
bsCodingScheme	No restrictions apply

10.4.2.3.1.5 SAOCHuffData1D()

hcodFirstBand_XXX	**bsCodeW** shall have a value out of a set of values as defined by column 'codeword' of Tables A.2 and A.3, respectively, and shall have a length as defined by the corresponding entry in column 'length'
hcod1D_XXX_YY	**bsCodeW** shall have a value out of a set of values as defined by column 'codeword' of Tables A.4 and A.5, respectively, and shall have a length as defined by the corresponding entry in column 'length'
bsSign	No restrictions apply

10.4.2.3.1.6 SAOCHuffData2DFreqPair()

hcodLavIdx	**bsCodeW** shall have a value out of a set of values as defined by column 'codeword' of Table A.24, and shall have a length as defined by the corresponding entry in column 'length'
hcodFirstBand_XXX	**bsCodeW** shall have a value out of a set of values as defined by column 'codeword' of Tables A.2 and A.3, respectively, and shall have a length as defined by the corresponding entry in column 'length'
hcod2D_XXX_YY_FP_LL	**bsCodeW** shall have a value out of a set of values as defined by column 'codeword' of the applicable table out of Tables A.11 to A.22, and shall have a length as defined by the corresponding entry in column 'length'
hcod1D_XXX_YY	**bsCodeW** shall have a value out of a set of values as defined by column 'codeword' of Tables A.4 and A.5, respectively, and shall have a length as defined by the corresponding entry in column 'length'
bsSign	No restrictions apply

10.4.2.3.2 SAOCExtensionFrame()

No restrictions apply. Note that in case of bsSaocExtType having values indicated as "reserved" in Table 54, the parsing function SAOCExtensionFrameData(bsSaocExtType) shall return the value 0, such that possibly present data is read as bsFillBits (i.e., skipped) and correct parsing of the bitstream can continue.

bsSaocExtLen	No restrictions apply
bsSaocExtLenAdd	No restrictions apply
bsFillBits	No restrictions apply

10.4.2.3.3 SAOCExtensionFrameData(0)

bsDcuDynamicUpdate2	No restrictions apply
bsDcuMode2	No restrictions apply
bsDcuParam2	No restrictions apply

10.4.2.4 Transport of SAOC data

10.4.2.4.1 Transport in an MPEG environment

10.4.2.4.1.1 Introduction

In case of transport of SAOC data in an MPEG-4 environment, the following restrictions apply. In case of SAOCSpecificConfig() is conveyed out-of-band, any in-band SAOCSpecificConfig() shall be identical to the out-of-band one.

In case of embedding of MPEG SAOC data in MPEG-2/4 AAC payloads, the following restrictions apply. There must be at least one extension_payload() element with extension_type==EXT_SAOC_DATA in each AAC frame in order to enable immediate implicit signalling.

In case of embedding of MPEG SAOC data in MPEG-1/2 Layer I/II/III bistreams, the following restrictions apply. The first bit of the ancSyncword must be byte-aligned with respect to the first bit of the 0xFFF syncword of the MPEG-1/2 frame header. The AncDataElement() must be completely included in the ancillary data of a single MPEG-1/2 frame. There must be at least one AncDataElement() in the ancillary data of each MPEG-1/2 frame in order to enable immediate implicit signalling.

10.4.2.4.1.2 AncDataElement()

ancSyncword	Shall be 0x473
ancType	No restrictions apply
ancStart	No restrictions apply
ancStop	No restrictions apply
ancLenBytes	No restrictions apply
ancLenBytesAdd	No restrictions apply
ancCrcWord	Shall have the value as determined by the procedure specified in 8.2.4
ancDataSegmentByte	A data block formed by concatenation of ancDataSegmentByte as specified in 8.2.4 shall, if ancType==0x0 or ancType==0x1, constitute one SaocDataFrame() syntax element, padded at the end to obtain an integer number of bytes

10.4.2.4.1.3 SaocDataFrame(saocHeaderFlag)

saocHeaderFlag	No restrictions apply
saocHeaderLen	No restrictions apply
saocHeaderLenAdd	No restrictions apply
bsFillBits	No restrictions apply
saocTimeAlignFlag	No restrictions apply
saocTimeAlign	Shall have an absolute value no larger than two times the number of samples in the MPEG SAOC PCM frame as defined by **bsFrameLength** and **bsSamplingFrequencyIndex** or **bsSamplingFrequency**

10.4.2.4.2 Transport over PCM channels

10.4.2.4.2.1 Introduction

In case of transport of SAOC data over PCM channels, the following restrictions apply. The BuriedData() data shall be embedded in the LSBs of the PCM channels. Typically, 16 bit PCM samples are used. However, also other sample precisions shall be supported, e.g. 20 and 24 bits.

10.4.2.4.2.2 BuriedDataHeader()

bsBDSyncword	Shall be 0xAA95
bsBDChannels	Shall have the value of the number of PCM channels in which the MPEG SAOC data is embedded
bsBDFramelength	Shall define a PCM buried data frame size which is exactly the same as the MPEG SAOC PCM frame size defined by **bsFrameLength** and **bsSamplingFrequencyIndex** or **bsSamplingFrequency**
bdBDSubframes	Shall fulfil the restrictions outlined for this syntactic element in 8.3.3
bsBDReserved	Shall be 0
bsBDAlloc[channel][subframe]	Shall not exceed the value of n for n bit PCM samples
bsBDHeaderCrc	shall fulfil the restrictions outlined for this syntactic element in 8.3.3
bsBDHeaderPadding	Shall be 0

10.4.2.4.2.3 BuriedDataFrame()

bsBDFramePadding	Shall be 0

10.4.2.4.2.4 BuriedDataElement()

bsBDType	Each BuriedDataFrame() shall at least contain one BuriedDataElement() with **bsBDType** set to the value of 4 or 5. In the case of file based applications, the first frame shall contain a BuriedDataElement() with **bsBDType** set to the value of 5
bsBDID	Shall be set to a value in the range of 0..7, each value shall be used only once in a BuriedDataFrame()
bsBDLengthIdx	No restrictions apply
bsBDLength	Shall fulfil the restriction outlined for this syntactic element in 8.3.3
bsBDBytes	Shall contain exactly one SaocDataFrame()
bsBDDataCrc	Shall fulfil the restrictions outlined for this syntactic element in 8.3.3

10.4.2.5 Restrictions depending on profiles and levels

10.4.2.5.1 Introduction

Depending on the profile and level associated with the present SAOC bitstream, further restrictions may apply.

10.4.2.5.2 Baseline SAOC profile

For the Baseline SAOC profile, the following further restrictions apply.

bsSamplingFrequencyIndex Shall be encoded with a value listed in Table 58

bsSamplingFrequency Shall be encoded with a value listed in Table 58

bsFrameLength Shall be in the range 3..71

Table 58 — Restrictions for the SAOC Baseline Profile

	Level 1	Level 2	Level 3	Level 4
bsSamplingFrequencyIndex	0x3..0xc, 0xf	0x3..0xc, 0xf	0x3..0xc, 0xf	0x3..0xc, 0xf
bsSamplingFrequency	<= 48000	<= 48000	<= 48000	<= 96000

10.4.2.5.3 Low Delay SAOC profile

For the Low Delay SAOC profile, the following further restrictions apply.

bsSamplingFrequencyIndex Shall be encoded with a value listed in Table 59

bsSamplingFrequency Shall be encoded with a value listed in Table 59

bsFrameLength Shall be in the range 3..32

Table 59 — Restrictions for the SAOC Low Delay Profile

	Level 1	Level 2	Level 3
bsSamplingFrequencyIndex	0x3..0xc, 0xf	0x3..0xc, 0xf	0x3..0xc, 0xf
bsSamplingFrequency	<= 48000	<= 48000	<= 48000

10.5 SAOC decoder/transcoder

10.5.1 Characteristics

10.5.1.1 General

The SAOC decoder/transcoder can be implemented in two different versions:

— High Quality (HQ) SAOC

— Low Power (LP) SAOC

10.5.2 Test procedure

10.5.2.1 Downmix decoders

An SAOC decoder/transcoder can be used in combination with a downmix decoder. In this case, the downmix decoder shall fulfill the conformance criteria that are applicable to it.

10.5.2.2 SAOC decoder/transcoder test procedure

With regard to the definition and further details of the conformance criterion RMS/LSB being used to test SAOC decoders/transcoders, reference is made to ISO/IEC 14496.

The conformance test procedure for SAOC decoders/transcoders internally creates a reference for comparison, given the conformance test sequence and the output from the decoder under test as outlined in Figure 22.

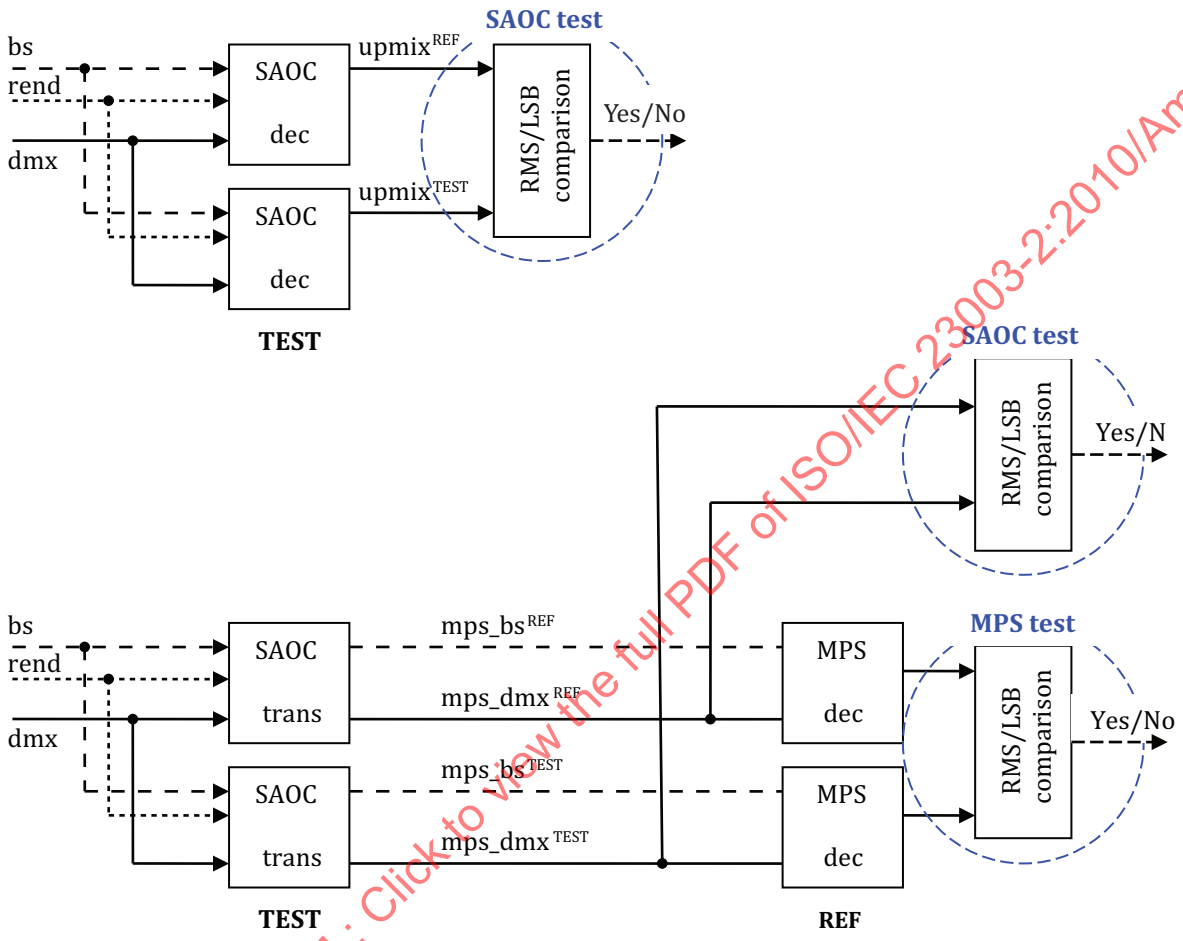

Figure 22 — Block diagram of the SAOC decoding/transcoding conformance test procedure

The relevant signals and data are:

— bs: SAOC bitstream from the conformance test sequence

— rend: rendering information from the conformance test sequence

— dmx: SAOC downmix signal from the conformance test sequence

— upmix^{REF} / dmx_bs^{REF}: output from the reference SAOC decoder/transcoder for comparison

— upmix^{TEST} / dmx_bs^{TEST}: output from the reference SAOC decoder/transcoder under test

— mps_bs^{REF}: MPS bitstream output from the reference SAOC transcoder

— mps_bs^{TEST}: MPS bitstream output from the SAOC transcoder under test

The relevant modules are:

— SAOC dec/trans REF: This module is the reference SAOC decoder/transcoder according to Clause 1 to 9 and Annexes A and G.

— MPS dec REF: This module is the reference MPEG Surround decoder according to ISO/IEC 23003-1.

— RMS/LSB comparison: This module calculates the difference signals between the output from the SAOC decoder/transcoder under test and the internal reference. The maximum amplitude of the difference signal (max Diff) as well as the RMS of the difference signal is calculated. The conformance criteria are specified with respect to PCM-sample in the range –32768 ... 32767.

10.5.3 Test sequences

To test SAOC decoder/transcoder, ISO/IEC JTC 1/SC 29/WG 11 supplies a number of test sequences. The naming convention of these bitstreams is as follows: The first part of the name (the part preceding the first underscore) specifies the downmix format. The second part of the name (between the first and the last underscore) specifies the properties of the test sequence in question according to Table 60.

Table 60 — List of SAOC bitstream elements for conformance test sequences

Conformance test sequence	pcm_x-1-1	pcm_x-1-2	pcm_x1-5	pcm_x-1-b	pcm_x-2-1	pcm_x-2-2	pcm_x-2-5	pcm_x-2-b	pcm_BLP_param_4	pcm_BLP_param_5	pcm_BLP_param_7	pcm_BLP_param_10	pcm_BLP_param_14	pcm_BLP_param_20	pcm_UDP_param_4
Downmix sampling frequency	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000
Downmix sample resolution	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
bsSamplingFrequencyIndex	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
bsLowDelayMode	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
bsFreqRes	1	1	1	1	1	1	1	1	7	6	5	4	3	2	7
bsFrameLength	31	31	31	31	31	31	31	31	31	31	31	31	31	31	7
bsNumObjects	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
bsRelatedTo[i][j]	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
bsTransmitAbsNrg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsNumDmxChannels	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0
bsTttDualMode	n/a	n/a	n/a	n/a	0	0	0	0	0	0	0	0	0	0	n/a
bsTttBandsLow	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsPdgFlag	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsOneIOC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsDcuFlag	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsDcuMandatory	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsDcuDynamic	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsDcuMode	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsDcuParam	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(0)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(1)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(2)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(3)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(8)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(9)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(10)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsFramingType	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsIndependencyFlag	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
bsNumParamSets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsParamSlot[i]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsQuantCoarseXXX[i][j]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SAOCExtensionFrameData(0)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionFrameData(1)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionFrameData(2)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionFrameData(3)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Conformance test sequence	pcm_LDP_param_5	pcm_LDP_param_7	pcm_LDP_param_9	pcm_LDP_param_12	pcm_LDP_param_15	pcm_LDP_param_23	pcm_ts_8	pcm_ts_15	pcm_ts_16	pcm_ts_18	pcm_ts_24	pcm_ts_30	pcm_ts_36	pcm_ts_48	pcm_ts_60
Downmix sampling frequency	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000
Downmix sample resolution	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
bsSamplingFrequencyIndex	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
bsLowDelayMode	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
bsFreqRes	6	5	4	3	2	1	7	7	7	7	7	7	7	7	7
bsFrameLength	7	7	7	7	7	7	7	14	15	17	23	39	35	47	59
bsNumObjects	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
bsRelatedTo[i][j]	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
bsTransmitAbsNrg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsNumDmxChannels	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
bsTttDualMode	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0	0	0	0
bsTttBandsLow	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsPdgFlag	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsOneIOC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsDcuFlag	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsDcuMandatory	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsDcuDynamic	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsDcuMode	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsDcuParam	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(0)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(1)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(2)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(3)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(8)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(9)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionConfigData(10)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsFramingType	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsIndependencyFlag	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
bsNumParamSets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bsParamSlot[i]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
bsQuantCoarseXXX[i][j]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SAOCExtensionFrameData(0)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionFrameData(1)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionFrameData(2)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SAOCExtensionFrameData(3)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a